

The foregoing resolution was adopted in order to inhibit the confusion which has frequently resulted from the fact that authors have occasionally published a given name as ‘ new ’ in two to five or more different articles of different dates—up to five years in exceptional cases.”

(Signed) C. W. STILES,
Secretary to Commission.

United States Public Health Service,
Washington, D.C.

Cause of Fishiness in Dairy Products.

(Extract from *Nature*, 3rd March, 1928.)

The action of Fenton's reagent (hydrogen peroxide in the presence of small amounts of ferrous salt) on lecithins in alcoholic solution causes the oxidation of the choline and amino-ethyl alcohol portions to tri-methylamine and methylamine respectively (together with some ammonia).

The olein of butterfat, owing to its unsaturation, easily absorbs oxygen to form a labile peroxide, the absorption being strongly catalyzed by compounds of heavy metals, especially copper. The peroxide thus formed is an active oxidizing agent in fatty media and is also a catalyst to more advanced oxidation. Lecithin is intimately associated with the fat peroxide in the fat phase of dairy products, and its nitrogenous base portion is oxidized through the agencies of the fat peroxide and the catalytic activity of the metallic (copper) compounds present, forming volatile bases possessing a fishy odour. That is, the reaction involved is a modified Fenton reaction in the fat phase. These volatile bases (tri-methylamine mostly) together with the easily hydrolysable salts of these bases with free fatty acids (butyric and oleic), are the causes of fishy flavours and smells in dairy products.

The importance of small amounts of metallic compounds, copper especially, in strongly catalyzing the oxidation must be realized, since, without metallic contamination, the formation of labile peroxide would be slow, and, since rancidity is a precursor to fishiness, that degree of rancidity necessary for fishiness to develop would not have been reached during the normal storage of products free from metallic contamination. In the examination of all products which were fishy, copper in appreciable quantity has been found to be present.

That such oxidation is possible in butterfat also demonstrates the need of enquiry into the fate of fat-soluble vitamins during the development of rancidity.

(Signed) W. L. Davies.
A. T. R. Mettick.

The National Institute for Research in Dairying,
University of Reading, February 7th.